**Sustainable Development, Financial Incentives and Wind Energy in Turkey**

**Assoc. Prof. Dr. Yıldız Arıkan**

Istanbul Kemerburgaz University, Department of Industrial Engeneering

Mahmutbey, Dilmenler Cad. No. 26, 34217 Bagcilar, Istanbul

Email: yildiz.arikan@kemerburgaz.edu.tr

Sustainable Energy is the engine of development. Its benefits create a dilemma: How can we keep providing our civilization with energy-derived advantages without damaging the environment, affecting societal stability, threatening the well-being of future generations?

The resolution of this dilemma requires finding sustainable energy resources and effective policies.

Energy subsidies lie at the heart of sustainable development as they affect the economy through energy investments and energy prices, the environment through the resulting increased/decreased emissions and other negative externalities, the society through the level of acceptability (bearability), rightfulness (equitability) and reasonableness. However, measuring the macroeconomic, environmental and societal effects of energy subsidies is a complicated problem. It requires an adequate measurement framework for finding answers for many questions like:

* What are the costs and benefits associated to RES deployment under current support mechanisms?
* What are the RES effects on the market structure?
* What are the influence of individual wind feed in time series on the electricity spot market prices and their effect on the economic evaluation of storage systems?
* What are the effects of national, regional policies to reduce GHG emissions?
* What is the financial and economic justification of subsidized RES Projects?
* Who benefits from renewables and what are the economic impacts of renewable energy along the value chain and value creation policies?

Such questions can be answered in a variety of models focusing on the specific issue.

This paper attempts to assess the price signal given in Turkey to the investors of wind energy by the feed in tariff (FIT) structure and try to elaborate how effective it can be. For this purpose a set of Levelised Costs of Electricity (LCOE) for wind turbines with different wind characteristics, calculated under different incentive levels, will be compared with the FIT and the recent market prices of electricity.

Our findings show that the present incentive scheme for wind systems is effective only when the purchase guarantee aspect of the scheme is considered. Otherwise the FIT, even with the widest set of additional local content incentives, lie below the LCOEs. Many companies preferring to sell wind electricity through bilateral contracts is an evidence for our findings.

References

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